DEVELOPMENT OF A RESIDENTIAL TIME-OF-DAY RATE

PREPARED TESTIMONY OF JAMES R. ADKINS

- Q1. State your name and business address.
- A1. I am James R. Adkins and my business address is 1041 Chasewood Way, Lexington, KY 40513-1731.
- Q2. What has been your role in the development of this residential time-of-day ("TOD") rate?
- A2. My role in this application has been to assist Blue Grass Energy Cooperative ("BGE") in its development.
- Q3. What is your professional experience in the area of electric utility rate-making?
- A3. I have spent the last thirty-one plus years dealing with electric utility rates. I was employed by EKPC as its Pricing Manager for almost twenty-five years. I spent a little over one year with the Prime Group, LLC and I have been self-employed for the last six plus years. Prior to my electric utility career, I was employed in the finance and accounting areas of the medical care field for close to eight years. I also served in the U.S. Army as an infantryman in the Republic of Vietnam in the late 1960s.
- Q4. What is your educational background?
- A4. I received a Bachelors Degree in Commerce with a major

in banking and finance in 1971 and a Masters of Science in Accounting in 1976. Both of my degrees were granted by the University of Kentucky. Since then, I have attended several seminars, conferences and courses on rate-making as well as making presentations at many conferences and seminars of electric utility rate-making, cost of service, and rate design.

- Q5. Have you ever appeared as a witness before this Commission?
- A5. I have appeared as a witness before this Commission many times in rate applications, applications for certificates public convenience and necessity, fuel adjustment clause hearings, and administrative cases. I have testified on the behalf of East Kentucky Power Cooperative ("EKPC") and for all of EKPC's member cooperatives and for other distribution cooperatives.
- Q6. What is the purpose of the proposed TOD rate of BGE?
- A6. BGE has developed this optional TOD rate to allow members a choice in electric rates with the potential to reduce their electric bill. The purpose of the proposed TOD rate is to present a more definitive TOD rate design. By a more definitive rate design, I mean one that has a real incentive in its on-peak energy rate design as well as in its off-peak energy rate design. The current TOD rate has an on-peak energy rate of \$0.10028, an off-peak energy rate of \$0.06139

and a customer charge of \$9.36. The on-peak and off-peak hours are the same hours as EKPC's on-peak and off-peak hours. EKPC's current on-peak hours are provided below:

May through September 10 am - 10 pm EST October through April 7 am - 12 noon 5 pm - 10 pm

With the current TOD rate and the current on-peak hours, BGE feels that no incentive exists for a consumer to take a serious look at this rate.

However, BGE is proposing a significant change to the rate design and the on-peak hours.

- Q7. What is BGE proposing in this new TOD rate that is significant?
- A7. BGE is proposing four (4) significant elements to the proposed rate design.
 - The off-peak energy rate is set at a lower amount and in this proposal; it is \$.05000 per kWh.
 - The on-peak energy contains a real penalty by setting it at an amount of \$0.14750 per kWh.
 - The on-peak hours have been limited to eight hours in both the winter season and the summer season with the months for each season coinciding with EKPC's seasons.
 - The weekends are considered completely off-peak with the net effect of only 40 hours a week of on-peak time.

- The proposed customer charge is set at \$15.00 to minimize the risk that BGE might have with free loaders. Less distribution costs are required to be collected from the energy rate.
- Q8. Please explain the basis for the development of this proposal?
- A8. The rates developed in this proposal are based on the test year used in BGE's last rate case in 2007-00011 which is 2007. The billing analysis and data from the cost of service study in that rate case has been updated for the current retail rates of BGE and the current wholesale rates of EKPC. Additionally, the final rates have been updated to the include BGE's proposed FAC rolling of \$0.01067 per kWh.

 Pages 1 and 2 of Exhibit B provide this information.
- Q9. What else did BGE need to develop these rates?
- A9. BGE determined that it also needed the energy usage for each month of the test year for the residential rate class. The data needed was the amount of energy used at each hour of the day for each month of the test year. This load data has been developed and provided by EKPC. This information has been broken down into weekday load data and weekend load data. Exhibit C provides this load information.

- Q10. What did BGE do with this load data?
- A10. BGE looked at the information and felt that it would not be unreasonable to reduce the number of on-peak hours during both the summer season as well as the winter season. It was decided to reduce EKPC's on-peak hours in the winter season by one hour for each on-peak period during that season. Additionally, both Saturday and Sunday are both off-peak. The net effect on hours is a reduction in on-peak hours during the winter season from 70 hours per week to 40 hours per week. For the summer season, the on-peak hours have been reduced by four hours and Saturday and Sunday are both off-peak. The net effect on hours for the summer season is a reduction from 84 hours per week to 40 hours per week.
- Q11. Does BGE have some risk in these proposed changes?
- All. Some risks does exist for BGE with a reduction in its on-peak hours. The primary risk is associated with a wholesale billing peak that might occur in those hours that are on-peak hours for EKPC but off-peak hours for BGE. BGE has looked at EKPC's billing peaks for a ten year period and it is very unlikely that one may happen in this situation. BGE feels that it is worth the risk in order that it may provide a rate design that has some real incentives to shift load from onpeak to off-peak periods.

- Q12. What is the initial expected acceptance of this proposed rate?
- A12. Some time may exist before a member might take advantage of this rate design and the initial ones that take it may not have to shift load to reduce their bill ("free riders"). However, over time, members that are not free riders will see that some potential exists for them to reduce their electric bill.
- Q13. Will other distribution cooperatives served by EKPC develop rates that might be similar to this TOD proposal.
- A13. These other cooperatives have interests similar to BGE in developing a meaningful TOD rate. Some may develop a rate very similar to BGE's proposal in this filing. I believe that this rate has some potential.
- Q14. Does this conclude your testimony?
- A14. This concludes my testimony.

Affiant, James R. Adkins, states that the answers given by him in the foregoing questions are true and correct to the best of his knowledge and belief.

James R. Adkins

Subscribed and sworn to before me by the affiant, James R. Adkins, this 26 day of May, 2009

My Commission expires June 6, 2009.

Notary Public, State of Kentucky at Large

Blue Grass Energy

Billing Analysis Test Year Ending December 31, 2007

GS-1, Residential, Farm and Non-Farm

	Billing		Proposed
<u>Description</u>	Determinants	Rates	Revenues
Customer Charge	619,307	\$9.36	\$5,796,714
Energy charge per kWh	805,422,653	\$0.08189	65,956,061
Billing adjustments			0
Total from base rates			\$71,752,775

GS-2, Off-Peak Marketing (ETS)

	Billing		Proposed
<u>Description</u>	Determinants	Rates	Revenues
Energy charge	2,822,755	\$0.04913	138,682
Billing adjustments			0
Total from base rates		:	\$138,682
Total Energy	808,245,408		

Blue Grass Energy

Statement of Operations Test Year Ending December 31, 2007

	Residential <u>Rates</u>	ETS <u>Rate</u>	Combined
Revenue from Rates	71,752,775	138,682	71,891,457
Wholesale			-
Generation	11,292,442		11,292,442
Distribution Substation	961,739		961,739
Total Wholesale Demand	12,254,182		12,254,182
Wholesale Energy Costs	36,717,122	101,383	36,818,505
Total Wholesale Costs	48,971,304	101,383	49,072,687
Gross Margin	22,781,471	37,299	22,818,770
Distribution Demand Costs	22,701,471	01,200	22,010,770
Lines	5,411,771		5,411,771
Transformers	1,240,979		1,240,979
Total Distribution Demand	6,652,750		6,652,750
Distri			
Lines	4,573,393		4,573,393
Transformers	429,344		429,344
Services	3,043,630	3,203	3,046,833
Meters	1,841,750	12,922	1,854,673
Consumer Services	4,838,273	23,364	4,861,637
Lighting			
Total Distribution Consumer	14,726,390	39,489	14,765,880
Total Distribution Costs	21,379,141	39,489	21,418,630
Operating Margin	1,402,330	(2,191)	1,400,140
Other Revenue	2,314,726	1,625	2,316,351
Net Margin	3,717,056	(566)	3,716,491

Blue Grass Energy

Development of Time-of-Day Rates Test Year Ending December 31, 2007

On-Peak kWh Off-Peak kWh Total kWh			227,792,479 580,452,929 808,245,408
Revenue from Rates Less Revenue from Customer Charge			\$ 71,891,456.53
Proposed Customer Charge	\$	15.00	
Number of Customer Charges	·	619,307	9,289,605
Revenue Required from Energy			62,601,852
Off-Peak Energy Revenue			
Proposed Off-Peak Energy Rate	\$	0.05000	
Off-Peak Energy	58	0,452,929	29,022,646
Required Revenue from On-Peak Energy Rate			33,579,205
On-Peak kwh			227,792,479
On-Peak Energy Rate			0.147411386

FOR 2007 RESIDENTIAL RATE CLASS HOURLY ENERGY USAGE BY

WEEKDAY AND WEEKENDS

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F	Misson	Micond	Mindon	Michael	Π.	Missed		
Ше	WKday	vvkena	WKday	vvkena	WKday	WKend	Wkday	WKend
_	2,391,231	716,754	2,555,147	1,193,390	1,428,966	678,955	1,235,922	598,489
2	2,309,677	684,346	2,551,256	1,157,400	1,388,103	652,984	1,208,287	588,414
က	2,327,003	668,143	2,582,359	1,174,527	1,429,023	655,853	1,258,912	600,605
4	2,382,356	676,379	2,647,323	1,186,278	1,473,495	691,073	1,303,881	625,764
2	2,432,722	701,804	2,716,662	1,205,875	1,627,865	706,203	1,477,760	651,336
9	2,671,287	713,900	2,923,430	1,235,106	1,910,574	732,928	1,812,066	699,653
7	2,991,294	720,904	3,253,337	1,283,027	2,055,744	800,132	1,799,362	775,724
∞	2,993,931	799,884	3,246,651	1,350,659	1,985,691	902,195	1,700,561	888,931
တ	2,861,298	927,840	3,024,150	1,418,272	1,824,581	974,253	1,654,509	902,387
10	2,742,619	951,939	2,850,678	1,392,983	1,733,955	948,827	1,586,538	879,849
11	2,627,513	931,903	2,664,348	1,313,303	1,671,233	896,190	1,540,797	858,164
12	2,487,123	696'688	2,495,976	1,224,515	1,565,611	851,513	1,485,880	833,052
13	2,449,227	890,516	2,419,804	1,159,923	1,553,902	867,840	1,435,550	828,045
14	2,400,638	883,194	2,337,418	1,156,856	1,509,304	838,050	1,447,437	802,487
15	2,333,418	843,971	2,271,770	1,141,814	1,513,284	808,592	1,482,883	771,310
16	2,348,510	829,183	2,298,838	1,111,741	1,577,699	787,781	1,575,120	791,270
17	2,461,312	844,611	2,383,435	1,109,443	1,707,302	805,281	1,709,529	808,494
18	2,704,006	262'888	2,566,548	1,133,663	1,776,744	808,508	1,759,908	809,318
19	2,950,572	928,465	2,788,174	1,206,393	1,857,167	851,355	1,784,234	804,170
20	3,019,609	943,618	2,887,680	1,230,305	2,009,767	926,158	1,896,829	840,595
21	3,027,490	907,475	2,943,184	1,243,307	2,029,630	951,392	1,907,326	832,695
22	2,895,870	877,826	2,892,982	1,230,335	1,915,797	362,395	1,766,246	796,004
23	2,766,855	844,140	2,736,293	1,194,691	1,632,634	837,516	1,507,637	699,242
24	2,548,914	791,295	2,582,322	1,170,562	1,473,931	756,328	1,354,854	622,506

FOR 2007 RESIDENTIAL RATE CLASS HOURLY ENERGY USAGE BY WEEKDAY AND WEEKENDS

	Č	Octobor	Novembo	אבע אבע איני	WEEKDAI AND WEEKINDS	December	T.	104
i			DAOL .				- 1	
Ime	<u>Wkday</u>	Wkend	Wkday	Wkend	<u>Wkday</u>	Wkend	Wkday	Wkend
~	1,073,938	397,450	1,525,465	689,818	2,029,190	926,831	12,239,859	5,201,687
2	1,011,955	362,267	1,467,473	669,293	1,944,792	868,904	11,881,544	4,983,608
က	1,009,196	360,693	1,469,224	686,586	1,943,893	856,183	12,019,611	5,002,590
4	1,055,344	363,949	1,530,024	710,828	1,990,818	877,119	12,383,242	5,131,390
5	1,201,287	379,410	1,625,748	731,847	2,072,027	901,699	13,154,070	5,278,174
9	1,425,574	387,294	1,839,381	777,685	2,181,806	930,015	14,764,118	5,476,582
7	1,567,032	447,236	2,111,014	800,152	2,448,872	987,949	16,226,656	5,815,125
∞	1,467,264	545,710	2,185,604	888,558	2,560,588	1,104,967	16,140,290	6,480,903
တ	1,476,738	615,467	2,047,047	956,488	2,495,814	1,202,630	15,384,136	6,997,337
9	1,478,666	621,246	1,951,372	919,024	2,445,762	1,269,479	14,789,589	6,983,347
7	1,494,515	634,951	1,851,430	814,357	2,336,889	1,241,513	14,186,725	6,690,381
12	1,511,480	642,502	1,727,528	749,275	2,215,615	1,194,675	13,489,214	6,385,501
13	1,512,310	629,633	1,622,611	703,311	2,119,976	1,169,803	13,113,380	6,249,070
4	1,549,969	644,091	1,553,212	646,871	1,994,322	1,133,149	12,792,300	6,104,698
15	1,634,210	680,037	1,546,349	646,710	1,969,155	1,089,161	12,751,070	5,981,595
16	1,809,325	690,410	1,597,419	625,107	1,986,155	1,091,410	13,193,068	5,926,902
17	1,900,729	711,704	1,765,475	682,825	2,130,778	1,131,404	14,058,559	6,093,761
18	1,917,680	722,903	2,012,629	720,265	2,419,280	1,182,425	15,156,796	6,265,880
19	1,953,698	726,184	2,202,156	778,834	2,574,425	1,199,438	16,110,426	6,494,837
20	1,983,231	704,095	2,231,968	770,639	2,583,865	1,208,737	16,612,949	6,624,147
21	1,891,871	658,151	2,224,351	789,107	2,599,454	1,185,275	16,623,305	6,567,402
22	1,674,721	596,197	2,109,281	746,552	2,513,765	1,179,653	15,768,662	6,329,962
23	1,375,142	516,738	1,963,434	684,500	2,334,233	1,110,881	14,316,229	5,887,708
24	1,157,334	439,563	1,786,466	643,117	2,121,635	1,021,156	13,025,456	5,444,527
						Subtotals	340,181,255	144,397,113
						Total		484,578,368

FOR 2007 RESIDENTIAL RATE CLASS HOURLY ENERGY USAGE BY WEEKDAY AND WEEKENDS

	May		201	WEERDAL AND WEERENDS	AVELENE N	VIII	A	Andret
Time	Wkday	Wkend	Wkday	Wkend	Wkday	Wkend	Wkday	Wkend
_	1,130,041	390,400	1,262,309	550,671	1,431,813	575,093	1,827,306	636,805
2	1,013,530	354,318	1,125,166	482,010	1,288,619	515,991	1,668,225	586,682
3	971,752	351,054	1,069,813	452,415	1,236,073	482,229	1,581,060	531,493
4	970,467	344,713	1,024,848	436,238	1,169,136	462,027	1,523,650	517,737
2	1,080,585	352,492	1,102,699	426,631	1,247,567	456,647	1,601,363	507,298
9	1,348,335	355,623	1,225,574	426,416	1,360,769	448,120	1,764,371	496,126
2	1,386,212	434,696	1,267,246	496,417	1,402,789	512,020	1,805,907	547,602
80	1,366,435	524,688	1,388,065	602,651	1,473,438	616,319	1,810,594	622,813
6	1,457,922	579,252	1,516,222	687,082	1,690,128	730,071	2,018,502	754,509
10	1,522,170	599,628	1,715,661	773,548	1,902,740	825,484	2,250,602	851,948
11	1,621,284	635,024	1,878,128	852,439	2,065,511	888,632	2,582,667	932,931
12	1,719,417	652,086	2,064,163	933,808	2,285,749	971,068	2,824,495	1,008,633
13	1,816,678	663,952	2,192,579	987,131	2,423,976	1,021,319	3,009,134	1,073,751
14	1,898,742	693,250	2,274,425	1,029,285	2,592,656	1,075,726	3,154,923	1,138,716
15	2,016,121	705,016	2,389,878	1,072,057	2,704,909	1,098,374	3,310,448	1,180,482
16	2,194,680	746,254	2,519,032	1,102,396	2,863,256	1,148,965	3,521,536	1,201,807
17	2,366,772	773,476	2,602,588	1,125,380	2,975,448	1,167,204	3,621,528	1,208,910
18	2,365,395	756,457	2,618,886	1,106,981	2,993,944	1,167,819	3,561,206	1,197,826
19	2,310,144	711,322	2,539,669	1,040,802	2,834,114	1,114,814	3,448,668	1,130,453
20	2,220,973	689,196	2,347,338	978,047	2,640,609	1,052,416	3,293,274	1,087,072
21	2,208,013	704,505	2,255,107	955,471	2,530,898	1,003,699	3,166,582	1,040,034
22	2,037,710	659,192	2,145,926	902,363	2,383,059	922,705	2,879,272	962,212
23	1,638,314	541,751	1,795,476	753,706	1,986,822	791,402	2,414,795	808,693
24	1,339,780	437,723	1,481,293	630,004	1,666,601	666,582	2,060,505	694,719
	-							

FOR 2007 RESIDENTIAL RATE CLASS HOURLY ENERGY USAGE BY WEEKENDS

	-			-	
	Sep	<u>September</u>		lotal	
Time	Wkday	Wkend		Wkday	Wkend
_	1,071,819	547,852		6,723,287	2,700,821
2	988,298	491,382		6,083,839	2,430,383
က	948,265	478,783		5,806,963	2,295,975
4	943,351	472,947		5,631,452	2,233,661
2	1,035,025	473,262		6,067,238	2,216,330
9	1,209,150	474,679		6,908,199	2,200,962
7	1,265,515	530,890		7,127,669	2,521,625
∞	1,178,127	631,966		7,216,660	2,998,438
တ	1,288,495	741,956		7,971,270	3,492,870
10	1,401,418	798,592		8,792,591	3,849,200
=	1,512,623	845,355		9,660,213	4,154,381
12	1,634,917	912,452		10,528,740	4,478,046
13	1,776,599	959,525		11,218,967	4,705,678
14	1,920,798	1,000,532		11,841,544	4,937,509
15	2,083,859	1,045,104		12,505,215	5,101,033
16	2,291,144	1,090,979		13,389,649	5,290,402
17	2,375,397	1,132,670		13,941,733	5,407,640
18	2,346,150	1,109,992		13,885,581	5,339,074
19	2,234,483	1,049,075		13,367,078	5,046,465
20	2,136,302	1,010,656		12,638,496	4,817,387
21	2,038,649	960,367		12,199,248	4,664,075
22	1,769,900	853,353		11,215,867	4,332,824
23	1,443,172	740,541		9,278,579	3,636,093
24	1,215,265	623,617		7,763,444	3,052,645
			Subtotals	231,763,523	91,903,517
			Total		323,667,040